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## ORIGINAL ARTICLES.

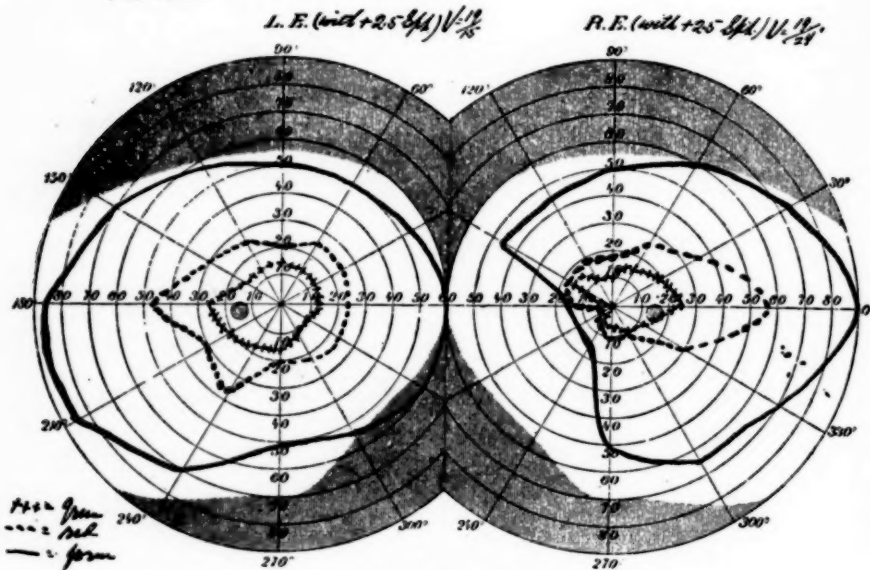
### IMPROVEMENT IN VISION AND VISUAL FIELD UNDER THE USE OF PILOCARPINE AND LITHIA IN BEGINNING GLAUCOMA (?) WITH LOSS OF THE OTHER EYE.

BY J. W. CHARLES, M.D.,  
ST. LOUIS.

Mrs. —, 66 years old, came to me in 1902, seeing objects with the right eye as if through a veil. O. D. V.=15/19—(Hm 3). O. S. V.=15/12—(Hm 3). Ophthalmometer gave O. D. As 0., O. S. As 0.25+M. vertical. Ophthalmoscope gave in O. D. an almost central retinal hæmorrhage with fine dots of degeneration in macular region which reminded one almost of albuminuric retinitis. The left eye was normal. The patient was given a note to Dr. Frances L. Bishop, who reported that the urine and vascular system revealed nothing pathological. The patient then disappeared until 1906, when her vision was 19/19 O. D., and 19/15 O. S. with glasses. Could not remain for extended examination. The ophthalmoscope gave no additional lesion.

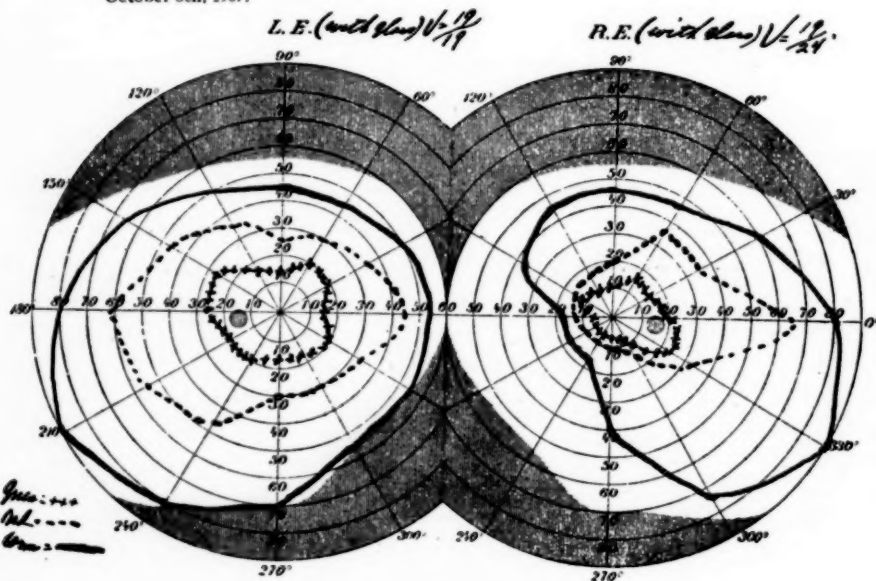
The patient returned July 3rd, 1907, in order to "have glasses changed," but did not have time for more than a visual test which yielded O. D. Hm 2.25 V.=19/19, O. S. Hm 2.75 V.=19/15.

July 11, 1907



1907, July 11th, patient returns for examination. O. D. Hm 2.5 V.=19/24, O. S. Hm 2.5 V.=19/15. Under mydriasis from the use of cocaine O. D. ophthalmoscope gives, beginning glaucomatous cupping of disc, O. S. normal (undilated pupil).

October 8th, 1907.



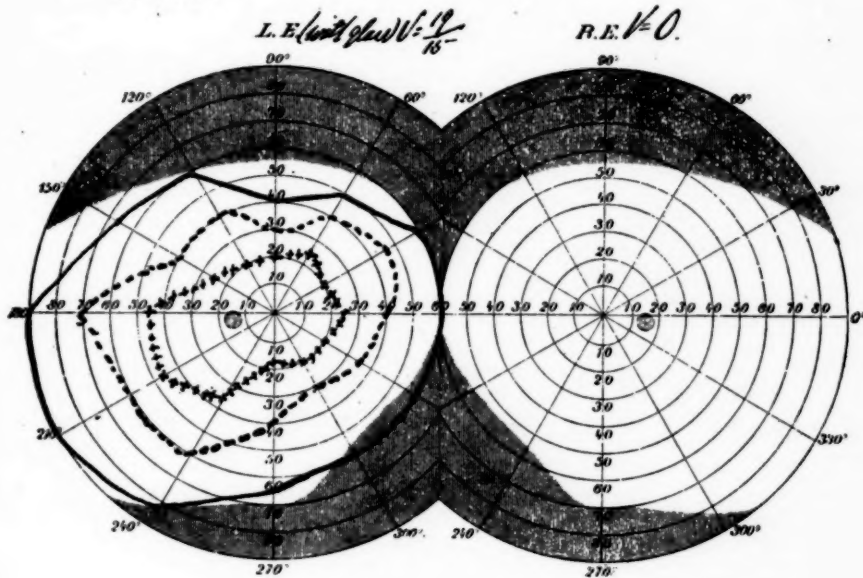
*Pilocarpine and Lithia in Beginning Glaucoma.* 291

O. D. T+1, O. S. tension doubtfully +; anterior chamber slightly shallow.  $\mathcal{R}$ . Lithiae Citrat, gr. v. t.i.d., and drink a great deal of water.  $\mathcal{R}$ . Pilocarpine Muriate gr. j to  $\mathfrak{J}$ j in boracic acid solution t.i.d.

September 6th, vision unchanged, pupils strongly contracted R. & L.

October 8th, vision as July 11th, and September 6th, vid. field;

May 6th, 1909.



poverty and repeated illness in her family have made her a most unsatisfactory patient for accurate examinations because she has always come to town on one train and attempted to leave on the next; but the vision of the right eye has gradually been lost, while that of the left has slightly improved, so that on May 6th of this year, O. S. V.=19/12. Tn. and the visual field remains somewhat improved as below.

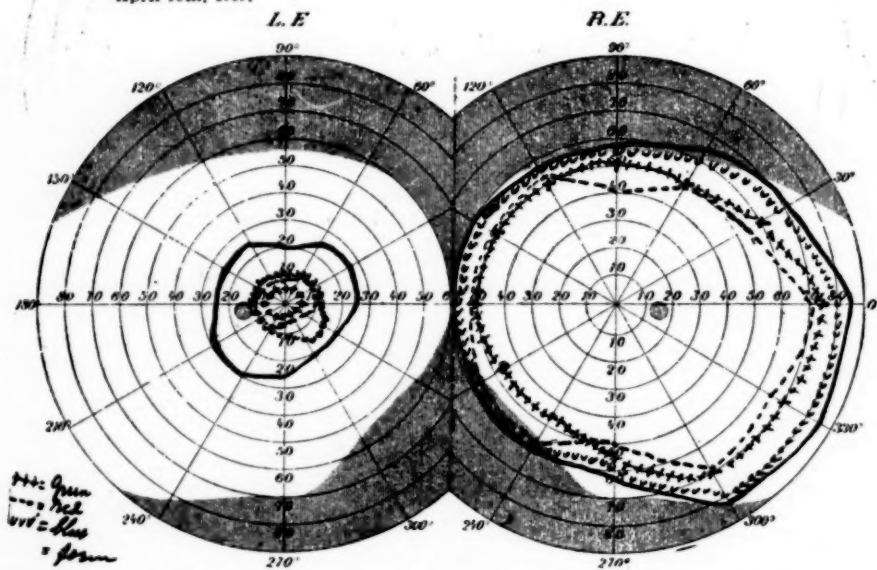
# THE DETERMINATION OF DAMAGES FROM THE OCULAR EXAMINATION, AFTER AN INJURY.

By J. W. CHARLES, M.D.,  
ST. LOUIS.

Mrs. — came with the following history: In a collision in November of last year, she was thrown against the window frame of a street car and sustained a blow on the left side of her head. The site of injury has been painful ever since that time. She was "unconscious" only long enough for a man to pick up her parcels, and the eye was "blood-shot" after the injury.

Her lawyer very honestly wished to know whether to fight for more damages than the very good compromise offered by the

April 15th, 1909.



company, because she believed that she could not see with her left eye nor hear with her left ear. Her condition when I saw her April 9th was:

O. D. V.=19/30.—with—1.25 sph. V.=19/15.

O. S. V.=19/48.—with—1.25 sph. V.=19/24.

Ophthalmoscopic examination absolutely negative.

Later, O. D. with +0.37 sph. V.=19/19.

O. S. with—1.25 sph. V.=19/24.

Upon placing a red glass over the right (better) eye she could see smaller green letters on the Snellen frame with the left eye at the same distance than she had read the black type on a white background.

Upon testing the motility of the external muscles, the whole left side of her face was attacked with severe neuralgic pain when she looked up, but when I said, "That's with the left eye. Now look up with the right," she told me that she had no pain.

After several days, the vision was finally O. D. with +0.5 sph. 19/19., O. S. with -0.75 sph. 19/24+.

So far one could very properly suspect simulation alone, but the field of vision convinced me that we had to do with a traumatic hysteria. In it we observe the concentric narrowing on the one side and a reversal of red and green on the other; the field for green being almost too good to be true.

My advice to her lawyer was to accept damages for a severe nervous shock rather than to fight on account of any supposed permanent lesion. She was also advised to consult a neurologist.

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#### RABBIT EYE IMPLANTED AFTER CLINICAL ENUCLEATION.

F. Lagrange (*Bulletin de l'Académie de Médecine*, July 6, 1909) has implanted a rabbit's eye after enucleation of an eye in twenty-five cases, having followed the results in thirteen cases. These have been very satisfactory, as the eyes have healed without infection and have shrunk less than one-half, as a rule, and never more than two-thirds. The shrinking is less in younger than in older patients. This operation affords an elastic, living, large and permanent stump which is of great value in young patients and makes the wearing of an artificial eye later more satisfactory.

THE THIOCYANATES IN THE TREATMENT OF  
CATARACTUS CONDITIONS OF THE EYES.

(A Supplementary Report.)

BY BERNARD R. LEROY, M.D.,  
ATHENS, OHIO.

The fact that ophthalmologists are as conservative and slow to try new forms of medical treatment, as are members of the medical side of our profession; has been fully amplified by the letters received by the writer since the publication of his preliminary article in this *Journal* (See May 1909), on the curability of cataract without interference, etc. Almost without exception these letters were argumentative, showing that the writers neglected to verify or disprove the stated facts in my article by clinical trial in their own practice; this being the case why waste valuable time in answering?

In the article referred to above, the first case reported, being an inmate of the Athens State Hospital and that institution being dominated and controlled by politics, it was so arranged that the writer has not been able to see nor follow up the treatment on that case. The second case reported is at this writing still under treatment; it proved to be luetic in origin. He is responding slowly to the treatment and is now able to distinguish colors, when the article is held within ten inches from his eyes; this he can do as readily with reflected as transmitted or direct light. He cannot see to read, nor to go freely around; he has improved very greatly in his general health and physical appearance; the chalky whiteness of the cataracts has disappeared and they have taken on a dull bluish water color; as the cataract in his left eye cleared there appeared small bunches of black pigment in the eye, seemingly attached to the inner capsule of the lens; this eye, while clearer from cataract than the right eye, has much the less power of vision.

Case 3, still taking treatment, not for her eyes, but for the great benefit bestowed upon her general health; the cataracts have become resolved; the eyesight has improved to nearly normal.

Case 4, improvement as reported continued until the patient was free from the intense pain, the field of vision remained unchanged; and then because he felt so much improved otherwise, he stopped the treatments.



The following cases have been more persevering:

Case 5. Child aged five years, when two months old he suffered from a severe attack of ophthalmia neonatorum which left him blind in the right eye; the broad chalky-white scar which passed across the iris, was very pronounced. He was placed under treatment, using a 1:5000 solution, of this a teaspoonful was given before each meal and at bedtime. At the end of the third month the boy can see as well with this eye as he can with the other one; the white scar has all but vanished without leaving any defective remains; nor can one distinguish, while at a reasonable distance, which eye was the afflicted one, by any test whatever. His bodily health has improved in pace with the improvement in the eye.

Case 6. Female, aged 86, senescent, cataracts in both eyes, vision so dim and feeble that she was obliged to feel her way around the room from one object to another; passed her time in bed or sitting in her chair; could not see well enough to recognize the face of her friends; was extremely depressed; the tenth week of treatment she was able to see her reflection in the looking-glass, the first time in years; the first symptom to be noticed after being well under the influence of the thiocyanates was the gummy mucus secreted in the eyes, especially in the morning this mucus gave forth an evil odor, from which she complained considerably; then quickly followed the improvements in her general health, so that she is traveling most of her time visiting her friends. I found her out in the flower garden picking flowers to take to a sick friend; this being the result of only three months treatment. She will continue to take the treatment for an indefinite length of time.

Case 7. Female, aged 87, decrepit and useless; too old and too weak to be of any use other than to live and suffer, awaiting the last call; not such a case that an ordinary student would select to make a record; result of treatment, so far as the eyes are concerned; treatment in the fourth month; she tells me that she reads the daily newspaper with ease, and passes much of her time reading current literature. Something that she has been unable to do for many years.

I have a large number of cases under treatment, and in due time will report.

## MEDICAL SOCIETIES.

### OPHTHALMIC SECTION

ST. LOUIS MEDICAL SOCIETY.

*Symmetrical Degeneration at the Macula in three Children of the same Family.*—By J. Ellis Jennings, M.D.

February 10, 1908, two sisters, Miss Rosa, aged 21, and Miss Martha, aged 19, and the brother, Philip, aged 17, consulted me on account of defective sight.

*Family History.*—Father and mother have normal vision. They are first cousins of German extraction and natives of Missouri. Both have brown eyes and dark hair. The children have dark hair and brown eyes and all have had defective sight since childhood, which is slowly getting worse.

Vision of Miss Rosa 10/200 with each eye, not improved by glasses.

Vision of Miss Martha 20/200 with each eye, not improved by glasses.

Vision of Philip 16/200 with each, not improved by glasses.

In reading all hold the print at about 4 inches. There is a central scotoma, but the peripheral field is normal.

*Fundus.*—The same fundus changes are noted in the six eyes. Optic nerve and blood vessels normal. In the macula is a horizontal oval patch somewhat larger than the disc, of a grayish color; the gray is stippled resembling splashes of grayish white paint. Surrounding this at a little distance is an oval ring made up of 18 to 20 small pale yellow dots without pigment borders. The dots resemble "Fay's Choroiditis", thought to be due to colloid disease of the choroid.

#### DISCUSSION.

Dr. A. Alt thought the illustration shown looked like a case of central coloboma. It sometimes happened that the differentiation of mesoblastic tissue into choroid and sclera does not take place and the result is the condition usually described as coloboma. He had seen similar central colobomata a number of times. Once



he had seen it present in each of three sisters, in two both eyes were involved, and in one but one eye showed this condition. This very day a young man came to consult him who showed one central patch with a whitish ring around it where no choroid had been formed in one eye. In all the cases that he had seen, there was an absence of choroid with excessive pigmentation around it, while in this case a dark pigment spot occupied the center of the lesion.

*Presentation of Patient with Transparent Central Ectasia of the Cornea.*—Dr. John Green, Jr.

The patient had a pronounced ectasia of the central portion of the left cornea which was perfectly transparent. Dr. Green had first seen the patient nine years before at which time the ectasia was less pronounced. The clear ectatic cornea was surrounded by an ellipse of scar tissue in which delicate vessels could be made out. At one point an overgrowth of conjunctiva or pseudo-ptygium appeared.

It seemed probable that the initial process had been a deep annular keratitis which so weakened the periphery of the cornea that it stretched, the normal intraocular pressure acting as a *vis a tergo*. The condition was quite unique in Dr. Green's experience.

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Meeting of June 2, 1909.

Dr. A. Alt in the chair.

*Some Ophthalmic Practices Seen in Vienna During 1908.*—By Dr. W. E. Klokke.

Trachoma treatment is carried out in vigorous manner at the Fuchs Clinic, these patients numbering between 40 and 50 per day, being treated from 7:30 to 8:30 o'clock in the morning. During the acute stages the routine treatment is direct applications of 2 per cent. nitrate of silver solution to the lids, made with a swab and followed immediately with a normal saline douche.

Complicated cases presenting ulcers, hyperæmia and beginning pannus have in addition, atropin instillations, the patient using hot applications at home.

In the sub-acute stage, the granules are expressed, the silver applications stopped and the copper stick substituted, shortly to be followed by a course of the alum stick treatment. The patient receives a 10 per cent. copper citrate ointment for home use, the instruction being that it should be rubbed well into the lids for two minutes. Those cases requiring expression are held over for a convenient time, being treated as follows:

After the usual boiling of the instruments, washing skin of lids and adjacent parts with soap and water, then irrigating the conjunctiva with 1:5000 bichloride solution, an injection of 1 per cent. cocain muriate solution of sufficient quantity to bulge out the upper fold, is made beneath the conjunctiva. This brings to plain view all granules and the operator, generally protected by a pair of goggles, uses a Graefe or other fine knife to open the individual "points," this being done by a motion as if scarifying a surface. Kuhnts' expressor may now be used without pain, as the expression may proceed at once after the injection. The roller forceps has been argued against as productive of too much trauma, so promoting scar tissue.

Examination of the Lacrimal Apparatus before Cataract Extractions: Pressure with the index finger is made upon the lacrimal sac; if no secretion is demonstrable, the case goes to operation. Should there be doubt of the patency of the canaliculus a syringing is resorted to. In general the probe is condemned, as all have seen the lengthy infections, from injury to the walls of the canal even by gentle manipulation of Bowman's probe. Those cases having infection are treated by sac extirpation and the conjunctival secretion is examined bacteriologically 3 to 6 times during the following two weeks. As to acute dacryocystitis an incision into the sac is refrained from unless perforation is imminent, hot fomentations being preferred. Any sac showing chronic blenorrhœa is promptly excised.

The indications for excision are:

1. All clinic patients where a lengthy treatment seems necessary.
2. Cases having sac infection on same side as contemplated cataract extraction or any intra ocular operation.
3. Old corneal ulcers with corresponding sac infection.
4. Chronic sac blenorrhœa.

Lengthy treatments are painful and tedious for patient and physician. I have there seen only one case of panophthalmitis following lens extraction, directly traceable to sac infection. This in possibly 150 cases.

**The Lacrimal Sac Operation:** As this is described at length in Meller's "Ophthalmic Surgery," I only briefly mention it. He is very particular to have the incision begin 2 mm. above and 3 mm. to the inner side of the internal canthus; then the incision should correspond to the anterior crest of the fossa lacrimalis. The incision should be a delicate one, as he lays great stress upon seeing the layers, of superficial fascia and orbicularis muscle separating this, then exposing the deep fascia, the latter to be slit open with scissors 2 mm. behind the anterior crest. Stress is laid upon holding only the fascia with the forceps; at this stage the sac is freed from its bed of fascia, by means of the closed scissors; this should be done laterally both sides, then the head of the sac is to be freed, canaliculus severed and finally the sac itself is handled for the first time, in cutting it off low down at the bony canal. I wish to remark that although a lengthy procedure, it is a highly satisfactory one, when once its technique is mastered. Performed under local anæsthesia, cocain 1 per cent., adrenalin a few drops; total quantity only 1 cc.

I have repeatedly seen a painless operation performed.

**Glaucoma:** It appears that this affection is far more prevalent abroad than in our country. Again, for the number of cases one sees there, and the vast out-patient department, it is surprising there are not more brought to light. Iridectomy remains the favorite procedure after a course of eserine treatment. Of late, especially in those cases showing a very shallow anterior chamber, the operation of cyclodialysis has given some surprisingly good results. This they perform as follows:

After cocainizing, washing and irrigating with 1:5000 bichloride solution, the patient looks up and in, the conjunctiva is dissected away in the outer lower quadrant 5 mm. back of the limbus. Now with a lancet the sclera is nicked through at exactly this distance behind the limbus, so avoiding the ciliary body; the scleral wound is 2 mm. long and parallel to the limbus. A spatula is introduced into the supra-choroidal space and made to come out exactly in the angle of the anterior chamber; by swinging the spatula right and left the ciliary body is detached, the spatula is gently withdrawn, and the conjunctiva sutured. The spatula may, however, glide behind Descemet's membrane into

the corneal substance if pressed too close along the sclera. This condition obtains when the end of the spatula is not freely movable in the anterior chamber.

The opacities resulting from this usually clear up, even if Descemet's membrane is rolled back.

The results occur gradually. A minus three tension may occur. The only symptom of glaucoma remaining is the dilated pupil with slight reaction to light. 40 per cent. of cases are followed by temporary reduction of T. 30 per cent. no reduction. 30 per cent. permanent reduction.

The first class of cases certainly furnish the opportunity of performing iridectomy if signs of increased tension appear. So at the Fuchs Clinic, it is contended that, not being a harmful procedure if correctly performed, it has much in its favor. A lengthy eserine treatment as formerly used in glaucoma is abandoned.

Another procedure which they do not hesitate to use for the relief of increased intraocular tension is transfixation. In cases of *seclusio pupillæ*, where "Iris bombée" is present, a slender Graefe knife is entered just in front of the limbus at the outer side in the horizontal meridian. This passes through cornea the two thicknesses of the iris bulge, to appear in front of the secluded pupil, re-entered into the iris bulge of the opposite side, comes out of the other side of the cornea at a corresponding point, and gently withdrawn. The operation is simple and effective. In a small per centage of cases iritis with plastic exudate defeats its purpose, but in general the iris apertures remain open, with immediate good results.

I wish to mention a treatment used in a case of keratitis parenchymatosa. A strong well nourished girl of 15 had, two years previous, an eye trouble which, though under treatment of eminent oculists, eventually resulted in total opacity of both cornea. The color was about like cartilage, no specific or other history obtainable. Examination showed O. D. V. & O. S. V. has fallen to light perception and projection. Externa, conjunctiva and sclera normal. Entire cornea opaque, of slightly darker color than the sclera. No vessel formation, no iris structure visible. Diagnosis: Parenchymatous keratitis. Treatment was begun with intramuscular injection of atoxyl 10 per cent. sol. in doses of 0.5 gm. being administered on alternate days, increasing the dose to 1 gm. this dose being continued. Hot air applications were used daily followed by dionin; after two weeks, slight vessel formation was seen extending from the outer cor-

neal limbus of the right eye; a few days later this condition was present on the other eye. At the end of a month iris structure could be seen under illumination. The patient then recognizing smaller articles held 12 inches before the eyes. She could see quite well to get about, in comparison with the condition at the inception of treatment. When last I heard of the case she had regained vision to 6/36 O. D. & O. S.

The appearance of the cornea after one month's treatment was very velvety, soggy and highly opalescent, a few small blebs were noticed; just as in degenerative changes, these disappeared after a few days, and new ones would appear. Nothing had been claimed for the method, beyond that one or two cases had shown results which could not be said for the previously instituted regulation treatment, in the earlier cases as well as in the one I observed. Of course the atoxyl is used not only against the specific, but the obstinate specific nature of the disease. I do not know of a report issued by this eye clinic on the subject.

#### DISCUSSION.

Dr. John Green, Jr., referred to Dr. Klokke's allusion to copper citrate ointment in the treatment of trachoma. Dr. Green's experience with this ointment had not been satisfactory. He preferred the method warmly advocated by Dr. Prince, of Springfield, viz., a 10 per cent. copper sulphate solution in glycerine, diluted with 10 to 20 parts of water.

Dr. Alt said that he had used the latter method frequently more than twenty years ago with varying success. He had not himself devised it, nor was it originated by Dr. Prince. The citrate of copper used in Vienna was probably that made in accord with the formula of young Doctor Arlt. Copper citrate not made by that formula was said not to give the good result. Dr. Alt asked whether atoxyl had been used in many cases without any deleterious effect on the vision. In the last number of the *Centralblatt fuer prakt. Augenheilkunde* there was given a list of some twenty or thirty cases in which blindness had resulted from the use of atoxyl in sleeping sickness, although the doses had been smaller than Dr. Klokke had mentioned. One case was mentioned in which 5.6 grammes were administered in five and one-half weeks. In another case 6 grammes were given within seven weeks. It seemed that once the optic nerve began to be affected, there was no stopping the progress of the affection, and the patient became absolutely blind. It showed the necessity for great care in the amount of atoxyl used.



## XVI. INTERNATIONAL CONGRESS OF MEDICINE.\*

Held at Budapest August 28th to September 4th, 1909.

## SECTION ON OPHTHALMOLOGY.

Report by Professor Dr. W. Stock, Dr. von Szily (Freiburg),  
and Dr. Cohen (Breslau).

TRANSLATED BY ADOLF ALT, M.D.

Professor Dr. von Grosz (Budapest) greeted the assembly and announced the names of the honorary presidents.

Subject for discussion: The infection of operative wounds and their prevention. Reports made by Morax (Paris), Elschnig (Prag), and Angelucci (Naples).

V. Morax (Paris).—*The etiology of subacute and late infections after operations.*

From the study of a large number of cases of infectious complications which, following an iridectomy, extraction of the lens, discission, sclerotomy and other operations on the eyeball, may concern the iris, the uveal tract or the vitreous body, the author concludes as follows:

The appearance of an irido-ciliary infection of a subacute character in a few exceptional cases could be traced to the growth of pus germs which had been introduced during the operation. Although our bacterial examinations are not yet perfect and although the explanation of the majority of these dragging and perfidious forms of iridocyclitis is purely hypothetical, we are prone to assume that most of them follow the growth not so much the development of well known saprophytes or of the spores of certain bacilli, but rather of such micro-organisms as have not yet been described and which possess the faculty to live on the surface of the conjunctiva of certain individuals. These microorganisms probably resist our agents employed for the disinfection of the conjunctival sac more forcibly than the ordinary pus germs. In this way we might explain the repetition of the same complications in one and the same patient occasioned by succedaneous operations. It seems that the sympathetic infection is of the same nature. Considering the mechan-

\*Klin. Mtsbl. fuer Augenhlk., September, 1909.



ism of infection we can make a sharp distinction between the cases just mentioned and those in which the infection attacks an eye several weeks or months after it has been operated on and in which an adhesion of the iris or the lens capsule produces conditions favorable to the immigration into the intraocular tissues of a superficial infection.

Elschnig (Prag).—*The prevention of infection in operations on the eyeball.*

The importance of endogenous infection of the eye after operation is considerably less than that of exogenous infection. Among the possible endogenous infections a sore throat, in the author's opinion, deserves more attention.

The post-operative exogenous infection comes in the main from the conjunctival sac. It may be prohibited by a previous exact bacteriological examination of the conjunctival secretion. It is necessary to make cultures on wet and dry media; simple smears are not sufficient. When streptococci or pneumococci are present in the cultures the operation must not be made. Among the remedies to remove the pathogenic germs from the conjunctival sac pyocanase and repeated flushings with oxycyanide solution are to be recommended.

A direct disinfection of the field of operation cannot be obtained. In cases with chronic inflammatory conditions of the conjunctiva the removal of the pathogenic germs must suffice. All ocular operations should, if possible, be made subconjunctival or with a conjunctival flap. Immunizing procedures have thus far shown no important effect on the prevention of postoperative infections. The author pays special attention to the systemic condition of the patient (especially diabetes).

Angelucci (Naples).—*The postoperative infections are due to autoinfection.*

Senile and goutic albuminuria do not disturb the healing of the wound, but chronic Bright's disease in its severe forms often produces iritis. If the patient in general feels well, diabetes need not cause any disturbance, in the stage of severe dystrophy it is dangerous. Gout causes disturbances only when there are severe intestinal symptoms. Patients with pyorrhœa of the teeth often get postoperative iritis, also those with constipation, foul intestinal fermentation and sometimes with catarrh of the bladder.

An eye operated upon during the height of an attack of influenza may be destroyed by endogenous suppuration as also in the presence of furunculosis and other abscesses in the body.

Wickerkiewicz (Krakau).—*My experiences with lavage of the anterior chamber.*

The author states that for 25 years he has after cataract extraction washed out the anterior chamber with instruments changed to suit himself. In order to obtain a stronger current of the fluid he has combined a double balloon with the bucket, and in order to prevent the current from becoming too strong he has added a valve.

He has never seen any deleterious effect from the lavage, except now and then a keratitis in stripes.

On the other hand, secondary cataracts are very much rarer even than after the removal of perfectly mature cataracts without lavage. The apparatus gives still further advantages. With it blood may be removed from the anterior chamber either previous to or after the expulsion of the lens in the most innocuous way. Air, also, which in cases of hypotonus may get into the eye, is easily removed and the wound lips are easier adapted, and the iris is brought back into its normal position. If a post-operative infection has taken place, the eye may sometimes be saved and a panophthalmitis be prevented if the wound is re-opened and the anterior chamber washed out with pyoktanin 1:500. This disinfecting fluid does not influence the corneal endothelium in a bad way, whilst according to Nuel and Cornils' studies a weak bichloride solution and even distilled water do harm to the corneal endothelium.

#### DISCUSSION.

Schirmer (Strassburg).—All postoperative iridocyclitic inflammations are due to infection, and hæmorrhages which occur on the 7th or 8th days are due to a trauma, at least in those cases in which the absorption of the blood leaves a normal condition behind.

The author goes still further and maintains that even the slightest post-operative irritations are due to infection, for instance, if after the 6th or 8th day a ciliary injection is visible. In these cases it is not necessary that there are præcipitates, but small lesions of the endothelium may be found.

According to Schirmer such cases are due to infection because all forms of transition to the severest ones may be observed, and

because, when the patients are discharged too soon they often return with an iridocyclitis. As therapy he recommends aspirin and phenacetin. In such eyes dissections cause irritation, also re-opening of the wound. Therefore repeated operations must be avoided.

Antonelli (Paris).—In accordance with Morax that all such cases of longer date should be reported, Antonelli relates the following case of postoperative infection. An old decrepit lady had an uncomplicated cataract in each eye. First the left eye was operated on with iridectomy without any accident. On the 8th day signs of beginning iridocyclitis with threatening atrophy of the eyeball appeared. Forced by circumstances the other eye was operated on with the same deplorable result. Finally nothing but light perception remained. Since during these operations all care had been exerted in the most scrupulous manner, the author believes that the infection was endogenous. He also recalls a case by Civetta (*Annali di Ottamologia*, 1909) of cataract extraction without iridectomy in which after colic and diarrhoea with hæmorrhoidal hæmorrhage on the 5th day the anterior chamber became filled with blood, which, however, began to disappear again on the 13th day. Complete cure.

Jessop (London), reports a case of late infection.

Axenfeld (Freiburg) agrees with Elschmig that when the conjunctival secretion is implanted in fluid media pneumococci are often found even in the norm. Such experiments are, however, out of the question as far as practicing oculists are concerned, especially since the other germs which are present at the same time and develop more vigorously (especially staphylococci) may overshadow the pneumococci. Yet, the smears of the secretion lying in the nasal canthus might with advantage be examined by every one. If no pneumococci are found in such smears the danger can be considered as very slight.

As to a specific prophylaxis, since it is impossible to render the conjunctival sac and lids absolutely clean, we might think in proper cases of immunizing the patient with dead culture of the patient's own germs.

Lagrange (Bordeaux).—Late complications after cataract extractions originate less from the microbes than from a peculiar predisposition of the patient. Two circumstances are here especially active. First the incomplete cleaning after the operation

of the anterior chamber, and second, the general condition of the patient, which, according to Verneuil, is appropriately called "seropathy." The author, therefore, lays particular stress on a careful lavage of the anterior chamber, using the syringe of Chibret with a double current with which the fluid injected is again withdrawn. For this manipulation he uses artificial aqueous humor of 37° which is absolutely isotonic. In this way the main cause of later complications is removed.

Wicherkiewicz (Krakau) maintains in opposition that the sucking out of the fluid from the anterior chamber is a very dangerous procedure.

Goldzieher (Budapest).—In a man, 70 years old, first obscurations, then a purulent iritis with hypopyon occurred five months after a perfectly smooth cataract extraction.

Since no cause could be found the diagnosis was an endogenous infection. Cure. A few months later obscurations again appeared. Now a small cyst was found in the scar. When this cyst burst, once more an iritis appeared. Conjunctival plastic was followed by permanent cure.

Here we evidently had to deal with a small ectasia of the scar, glaucomatous increase of tension, bursting of the cyst and infection from without.

Wicherkiewicz (Krakau).—In every cataract operation a good prophylaxis is necessary, based on a bacteriological examination of the conjunctiva. He operates even when a conjunctivitis still exists, if the pathogenic germs have disappeared from the secretion.

Sulzer (Paris).—There are three kinds of infection: (1) through accidents during the operation; (2) through entrance of germs from without; (3) by the endogenous route. He had a patient who came back with an iritis, undoubtedly endogenous, 3 months after the operation.

Allesandro (Messina) agrees with Angelucci as to the importance of the general condition of the patient for the appearance and the course of wound infection.

Kuhnt (Bonn), like Axenfeld, advises the examination in the morning of the mucous lying on the caruncle. If there are pathogenous germs in the conjunctival sac, they will surely be found in this locality. Furthermore, two or three days before the operation

the conjunctiva should be slightly scraped and then the eye be bandaged to see how it will bear such interference. The instrument of Wicherkiewicz is much too complicated, since it takes two to work it. If, in exceptional cases, it is considered advantageous to wash out the anterior chamber, a simple pipette with a flat nozzle and a small rubber balloon is perfectly sufficient.

Goldwin (Odessa).—*Exenteratio orbitosinualis, a procedure to remove neoplasms which invade the orbit and adjacent cranio-facial sinuses.*

The author describes his method for removing malignant tumors of the orbit (principally epitheliomata), which invade the neighboring accessory cavities. The main point is the opening up of the cavities and the removal of the wall so that finally one single cavity only remains which is the enlarged orbit. In serious cases he opens the cavities in the following order, sinus frontalis, labyrinth, nasal cavity with removal of the turbinate bodies and Highmore's antrum. The large resulting defect is covered by a skin and muscle flap from forehead and cheek.

Marquez (Madrid).—*On a new procedure for distichiasis.*

The author recommends the Jaesche-Arlt operation. If there is a second row of misplaced cilia he removes them before transplanting the anterior flap.

Von Blaskowics (Budapest).—*Cure of ptosis by shortening the posterior part of the lid and the levator.*

In complete ptosis the lid can be moved only by shifting the movement to another muscle. In incomplete ptosis the levator must be strengthened by shortening it.

This ptosis operation he performs in the following manner. Anæsthesia is produced by injecting a 2 per cent. novokain solution with adrenaline into the fornix, the lid being everted.

1. Section through tarsus 3 to 5 mm. from its upper margin.
2. Placing 3 sutures into the levator.
3. Excision of the tarsus, muscle and conjunctiva, from 3 to 5 mm. in width.
4. Tying of the sutures on the outer surface of the lid. The palpebral fissure is enlarged for about half of the transverse section. Results are generally better in acquired than in congenital ptosis.

Mrs. Marquez (Madrid).—*On chlorhydrate of codein in ophthalmic practice.*

The author recommends chlorhydrate of codein very highly in



painful eye affections. It is an analgesic, not an anæsthetic like cocain, which affects the sensitive nerve ends directly, but does not influence the deeper nerve ends. It is similar to dionin and might be called "little dionin." She uses a 5 per cent. solution.

Wicherkiewicz (Krakau).—*On congenital anophthalmus combined with lid cysts.*

Snellen (Utrecht).—*Optic nerve and accessory cavities of the nose.*

Neuritis optica and choked disc may be due to affections of the accessory cavities of the nose. Such inflammations do not originate in the immigration of microbes, but are due to direct continuity. In proof the author relates the history of a case in which hemianopsia in the right and amaurosis in the left eye had come on with high fever; there were also some eye muscle paralyses. Although the rhinologist could find no disease of the accessory cavities, an operation was performed and the patient cured.

Alessandro (Messina).—*Soluble ferments in the lacrimal gland.*

The filtrate of a sterile emulsion of the lacrimal gland of the dog in physiological salt solution shows a certain digestive action on pepton; also, a dissolving action on albuminoids. Alessandro thinks the first ferment is identical with trypsin, the second one analogous to pancreatic ferment. It may be that these enzymes are of some importance in the pathology of the eye.

Antonelli (Paris).—*Naso-lacrimal pathology in heredity syphilis.*

One of the stigmata of hereditary syphilis is often a projection of the free edge of the nasal bone at the tuberculum spinæ. This exostosis can be easily felt with the finger. In the same manner the crista ossis lacrimalis projects. A saddle nose need not be present. There is frequently a dakryocystitis.

Rémy (Dijon).—(1) *The role of the macula lutea in anomalies of binocular vision.* Discusses the well known symptoms of alternating squint, amblyopia exanopsia and strabismus and recommends his diploscope.

(2) *The diploscope in forensic medicine.* In order to detect malingersers he has had 8 openings made in his diploscope.

(To be continued.)



## ABSTRACTS FROM MEDICAL LITERATURE.

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### EXPERIENCE IN THE EXPRESSION OF CATARACTS IN THE CAPSULE BY THE SMITH METHOD.

D. W. Greene (*Jour. A. M. A.*, Sept. 4, 1909), while at first not very favorable to the Smith method of extracting cataracts in the capsule, on account of his early experience, has more recently, through larger experience and improved technic, come to think more highly of it. This operation not only avoids the necessity of a secondary operation on the capsule by doing away with that membrane once for all, but also prevents the cortical lens substance from coming in contact with the iris, which so frequently sets up an iritis or even an iridocyclitis. Thus the post-operative complications which so frequently follow the older methods in which the capsule is not removed are largely prevented. He quotes Ring as stating that the combined operation in the hands of the best operators in this and other countries furnished a loss of vitreous in 7.23 per cent., iritis in 13.15 per cent., incarceration of the iris in 4.32 per cent., and dissection was necessary in 26.61 per cent. in 1,032 operations. In comparison with these statistics he places Smith's statistics three years ago, where in 2,616 operations he had only 6.8 per cent. of loss of vitreous, and 0.3 per cent. of iritis in 2,494 operations when the lens came away whole, although when the capsule was opened intentionally or ruptured in delivery, and had to be left behind, iritis was observed in 5 per cent. of the cases. These advantages quite offset the added risk of loss of vitreous which it is acknowledged is greater for the average operator. Greene follows Smith's method of expressing the lens closely, and emphasizes the importance of having the patient look straight ahead or slightly upward, *never downward*, during the expression. Also, the pressure should never be excessive, but steady and equal; the cornea should be kept moist; and there should be no pressure or rubbing over the center of the cornea, as striped keratitis may result from such rubbing. The aver-

age vision of the seventy-five cases operated by the Smith method was about 20/30, while the average vision of the last seventy-five done by the regular method was 20/40, the two series of cases being as nearly similar as possible. Greene states that expression within the capsule offers the following advantages:

1. A cataract can be removed at any stage.
2. No discission is ever necessary.
3. There is comparative freedom from postoperative inflammations.
4. There are no capsule entanglements; prompt healing is the rule.
5. The method is especially adapted to institutional work; one operation does all.
6. No ripening methods need be tried.
7. The result is better average vision, which does not change with time, if the fundus conditions remain favorable.

The disadvantages of the method are the following:

1. The only important one is greater liability to loss of vitreous for the average operator.
2. From a cosmetic point of view the wide updrawn pupil (if it results) mars the appearance of the eye, while it may not be a disadvantage to vision.
3. And lastly, a skilled assistant is always necessary in performing the operation.

#### PRIMARY HÆMORRHAGIC GLAUCOMA, WITH PROBABLE SYMPATHETIC INFLAMMATION.

Mortimer Frank (*Jour. A. M. A.*, August 21, 1909) reports the case of a young man, aged 31, who came to him with an attack of hæmorrhagic glaucoma of twenty-four hours' duration. The tension was plus 3. Eserin combined with cocain, and dionin 5 per cent. were used, with leeches and hot fomentations. This not reducing the tension, and as iridectomy was contraindicated, during the next five days paracentesis and posterior sclerotomy were each performed twice, which, with the continued use of eserin locally and the internal administration of calcium chloride, brought the tension to normal in about fifteen days. The blood pressure varied from 95 to 115. Later the tension arose again and as a last resort a broad iridectomy was performed without a mishap about one month from the onset of the first attack. The vitreous cleared sufficiently to afford 6/60

vision. About one month from the time of the iridectomy a dust-like exudate was found on Descemet's membrane of this eye, and tension was somewhat raised. Three days later there was slight ciliary injection of the other eye with some lacrimation and discomfort. Examination revealed numerous fine dots on Descemet's membrane of the good eye which stained with fluorescein. Accommodation was impaired and the vitreous hazy. Under these circumstances enucleation of the glaucomatous eye was advised and done. Under proper treatment the vision in the second eye rose to 6/5, and the eye became practically normal. The enucleated eye was examined microscopically and a minute report of the findings are given, a summary of which is as follows:

"We have therefore an active chronic iridocyclitis, healed operative corneal and scleral wounds, and operative coloboma of the iris above. The eye shows effects of increased intraocular pressure in the displacement of the iris and lens system forward; in the flattening of the ciliary body and in the marked atrophy of the retina. No anatomic or histologic evidence of sympathetic inflammation is present. The presence of the chronic iridocyclitis throws doubt on the clinical diagnosis of primary glaucoma, and it is impossible to say from the anatomic findings that an anterior uveitis without clinical signs had not preceded and caused the glaucoma."

Frank says in closing: "The conclusions deduced from the microscopic examination deserve careful consideration on account of their differences from the clinical findings. First, as to the non-existence of anatomic or histologic evidence of sympathetic inflammation: Although the changes in the iris, ciliary body and choroid, as described by Fuchs, were absent, nevertheless the clinical symptoms were those of a sympathetic inflammation. Whether this was due to some agent entering the exciting eye as the result of the iridectomy, paracentesis or sclerotomy, I am unprepared to say. Until the pathologic anatomy of infiltrative-proliferative uveitis as described by Fuchs is found in all cases, and more firmly established as a pathognomonic finding, our diagnosis must be based on the clinical manifestations of the disease. The mere fact that the anatomic findings in this eye show a chronic iridocyclitis does not prove that it preceded the glaucoma and made it a secondary glaucoma, since the clinical precipitates on the posterior layer of the cornea and posterior synechia were not present until eight weeks after the onset of the primary glaucoma; but they did follow just exactly

twenty-eight days after the iridectomy, and may very well have caused it. The patency of the sinus angles in all sections, and the lumina of the canals of Schlemm, free and lined by a well-preserved endothelium in nearly all sections, is striking and deserves careful consideration. That a gross obstruction of the filtration angle at any point in the filtration zone accounted for the increased intraocular pressure is not at all probable, and the fact that another attack followed iridectomy seems to be both pertinent and conclusive. It is more reasonable to assume, according to Priestley Smith, Bulson and Troncoso, inasmuch as primary glaucoma in a certain group of cases is dependent on disease of the blood or blood vessels causing an excess of fluid in the vitreous chamber, the exit of which is prevented by the swollen ciliary processes, or an alteration in the constitution of the intraocular fluids with failure in drainage, that the acute glaucoma here was dependent primarily on some vascular disturbance. As a result of this vascular disturbance, possibly due to some form of toxæmia, there is diminution in the circulation of the blood favoring the occurrence of hæmorrhages which result rather from transudation than from ruptured vessel walls."

#### THE OPERATIVE TREATMENT OF GLAUCOMA BY CYCLODIALYSIS.

Arnold Knapp (*Jour. A. M. A.*, Sept. 4, 1909) has done Heine's operation of cyclodialysis in eighteen selected cases of glaucoma which he arranges under the following groups: (a) chronic glaucoma, (b) congenital glaucoma, (c) extensive capsular adhesion to cornea, and (d) glaucoma secondary to neuroretinitis with vascular changes and retinal hæmorrhages.

He reports the results of the operation on these cases, the tension being reduced for observation periods of two years and nine months to two months in eleven cases of chronic glaucoma while in four cases the eyes became hard again. The operation failed in the other three groups of cases. Concerning the operation Knapp says:

"The operation is technically easy, much easier than a correct iridectomy. The difficulties encountered in breaking through the pectinate ligament differed and were readily recognized. In one in which at the second operation the same quadrant of iris was displaced, no resistance at all was felt as if a firm adhesion had not reformed. In one case this segment of iris subsequently developed distinct atrophy of the iris stroma. In one of the most

favorable cases a cataract developed, the opacity beginning in the posterior cortex. It is impossible to say whether the cyclodialysis was responsible for this. The operation did not aggravate the condition except for a macular hæmorrhage in one, and attacks of acute glaucoma in two. No vitreous disturbance or detachment of the choroid were observed. The operation was repeated with benefit in three cases. In one the eye subsequently exhibited marked hypotony which apparently was not harmful, but this again is a point requiring further observation. Why the operation succeeded in some, and in apparently similar cases the tension again rose, cannot be explained.

"It can be conservatively stated that cyclodialysis is of value in certain limited conditions; it is indicated in the advanced cases of chronic glaucoma, especially those in which iridectomy has not succeeded in reducing the tension. It cannot in any way replace the classical operation of iridectomy or its recent modifications in incipient cases of chronic glaucoma."

#### METHOD OF TEMPORARILY REMOVING COLOR BLINDNESS.

G. A. Stephens (*Brit. Med. Jour.*, August 7, 1909), reasoning that since calcium salts have a stimulating influence upon the body cells they might cause the retinal cells to respond more readily to color sensations, has administered calcium lactate in ten to twenty grain doses to patients whose color sense was not good and found that the response to all the colors was improved, and in a case unable to recognize green previously, after only ten grains were given, the patient was able to differentiate green colored articles. The improvement is noted within an hour or two but is only temporary.

#### REGENERATION OF THE CORNEA.

Meyer Wiener (*Jour. A. M. A.*, Sept. 4, 1909) reviews the literature on the subject of regeneration of the cornea, both as to experimental research and clinical cases reported. From these he was encouraged to make some experiments on rabbits' eyes, a preliminary report of which he offers. Thirty-one rabbits' eyes were used for experimentation, a number of which were excluded from the report on account of the death of five of the rabbits before the conclusion of the notations. Flaps of the cornea from one-half to a little over two-thirds the thickness of



the cornea, and involving from one-half to the entire cornea, were cut away. No special after-care was given, the eyes being left open and the animals kept in the cage as previously. As a rule there was no photophobia or other suffering by the rabbit, the operated eye being kept open as widely as the unoperated one.

The cornea remained practically transparent until the third day, when the resected area showed a general infiltration and a small milky spot appeared in the center of the area. The haziness disappeared gradually, so that four to six weeks after the operation the cornea appeared perfectly clear, except that oblique illumination showed a slight opacity. As a rule in several months' time the cornea appeared entirely clear even under oblique illumination. Microscopic serial sections made of corneae immediately after resection; twenty-four hours later; forty-eight hours later; four days; seven days; two weeks; one month; two months, and thus on up to seven months, showed a gradual thickening of the cornea.

#### RODENT ULCER OF THE CORNEA.

(Mooren's Ulcer.)

Robert L. Randolph (*Jour. A. M. A.*, July 24, 1909) believes that rodent ulcer of the cornea is more frequent than one would suppose from the number of cases reported in literature, since according to Hayashi there are only about thirty-five such cases reported. Randolph thinks that many cases are not recognized as being this form of ulcer. He reports a case of this kind which came under his care after the ulcer had existed over two months. Emphasis is placed upon the fact that in this form of ulcer the conjunctival edge is extensively undermined, in his case as much as four mm., and he believes this is a valuable point in the differential diagnosis. While the edges of marginal ulcers are usually undermined, yet the blood supply at the limbus is so good that, as a rule, this edge of the ulcer is not markedly undermined, except in Mooren's ulcer. Other characteristic features of this ulcer are its chronicity, the average time being from two to ten months, and frequent relapses, often it appearing as if the ulcer were nearly healed when suddenly it will break out anew and invade more of the healthy cornea, until it ceases at last only when all of the cornea has been involved. The author used pure carbolic acid, repeated applications of the galvanocautery, frequent applications of tincture of iodine, also trichloroacetic acid, in addition



to frequent irrigation with salt solution, the instillation of atropin and internal tonic treatment. Concerning the treatment he says in conclusion:

"I have almost made up my mind that my patient has done better since all aggressive treatment has been abandoned, especially in the way of irritating applications. If the galvanocautery had been applied a month or six weeks earlier I believe that the story would have been different. When one meets a corneal ulcer along the margin, careful examination should be made to ascertain whether the limbus edge of the ulcer is deeply undermined. If so the cautery should be applied at once, and it might be well to cut away with a delicate pair of scissors the overhanging edges of the ulcer so that parts underneath can be readily reached. If the disease shows no substantial improvement at the end of two months, I think it best to stop all irritating applications and simply continue with atropin and salt solution irrigations and tonic treatment. I am not at all satisfied that repeated applications of the galvanocautery are advisable, such application often being followed by a denser opacity than is produced by the actual ulceration. McNabb states that some of these patients are left with a vision of from 1/6th to 1/4th."

#### EPIBULBAR LEUCOSARCOMA.

EXENTERATION OF THE ORBIT. NO RECURRENCE AT ORIGINAL SITE.  
DEATH IN THREE MONTHS FROM METASTASES.

Casey A. Wood (*Jour. A. M. A.*, July 24, 1909) reports a case of epibulbar leucosarcoma in a girl 15 years of age. The first symptoms of the trouble were observed in May, 1908, when the upper lid became swollen, which was followed by swelling in the eyebrow and drooping of the upper lid. During the next month the conditions grew worse and prolonged use of the eyes caused decided fatigue. The case came under the author's observation September 9, when there was an apparent protrusion of the right eye and the upper lid was swollen and covered about half of the pupil. When the lid was raised a semi-transparent swelling involving one-half of the upper part of the eyeball was observed. The tumor was apparently limited to the superior bulbar surface and did not extend posteriorly. The conjunctiva over it was not adherent, but the growth was attached to the sclerotic. The anterior part of the globe was not involved. The preauricular gland on that side was hard and rather prominent,

and the sub-maxillary and anterior cervical glands on this side were also more prominent than on the other side. The Calmette test was negative. Large doses of iodides and pilocarpin sweats were given for two weeks with no benefit. With tuberculosis and syphilis apparently eliminated, a diagnosis was made of sub-conjunctival leucosarcoma, and a section of the growth was removed for microscopic examination October 1, 1908, which verified the diagnosis. Accordingly a combined exenteration of the orbit with removal of all enlarged glands was decided upon and done October 8. The wounds healed nicely, and for a number of weeks after the operation Roentgen rays were used on the orbit walls. The patient became quite well apparently and there was no recurrence of the trouble in either the orbit, neck or jaw. However, the latter part of January, 1909, she became ill, with obscure abdominal symptoms, and died rather suddenly, probably of abdominal metastasis. No autopsy. The microscopic findings of the glands removed showed small round-cell sarcomata.

#### THE MANAGEMENT OF ACUTE HÆMORRHAGIC GLAUCOMA IN THE PRESENCE OF ADVANCED ARTERIOSCLEROSIS.

Charles Stedman Bull (*Jour. A. M. A.*, July 24, 1909) differentiates between acute glaucoma, coming on suddenly in an eye in which an intraocular hæmorrhage has previously taken place, which is the cause of the glaucoma, and the condition in which intraocular hæmorrhage occur in an eye where glaucoma already exists from some other cause. He believes an operation might be of some service in the latter condition while in the former it not only would be of no value but would do harm, since the great reduction of intraocular tension resulting from the operation would induce another intraocular hæmorrhage, greater than the first, thus shortly making the eye harder and more painful than before the operation. The cause of the hæmorrhagic glaucoma is always the intraocular hæmorrhage which occurs because of arteriosclerosis and hence should be considered as a local expression of disease of the general vascular system. He emphasizes the distinction between arteriosclerosis and arterial hypertension, the first being a pathologic change of the vessel walls produced by long continued high blood pressure. The arteriosclerosis cannot be cured, but may be prevented by early recognizing the high blood pressure and relieving this by proper medicinal and hygienic treatment. How-

ever, hæmorrhagic glaucoma invariably occurs in persons from 50 to 70 years of age in whom we have both hypertension and arteriosclerosis. Since any operation, such as iridectomy or sclerotomy which markedly reduces the intraocular tension at once, is contraindicated in the acute stages Bull has used and recommends the following treatment:

"Under the influence of a 10 per cent. solution of cocain, instilled as often as may be necessary, a careful paracentesis of the cornea is done, the instrument being withdrawn very slowly, and thus the aqueous humor is allowed to flow out only drop by drop from the anterior chamber. In this manner the intraocular tension is lowered very slowly, and the danger of the occurrence of an intraocular hæmorrhage is reduced to a minimum. Two or three leeches are then applied to the temple and allowed to fill themselves until they drop, or the Heurteloup wet cup may be used, and the bleeding kept up as long as may be necessary. Then a solution of eserine sulphate, one grain, and pilocarpin hydrochlorate, four grains to the ounce is instilled every hour, until under the combined influence of the paracentesis, the local bleeding, and the miotics, the eye softens and the pain grows less. As the intraocular tension subsides and the intravascular tension diminishes the pain grows less and the instillation of the miotics may be less frequent. Then the patient is directed to have hot applications made to the eye for half an hour at a time, and to repeat them every two hours until the pain has gone. He is also directed to take twenty drops of the fluid extract of Jaborandi three times a day, as a valuable additional means for lowering the intravascular tension. Hypodermic injections of pilocarpin will bring about the same result, but in the presence of advanced cardiac disease they are dangerous. It is sometimes necessary to repeat the paracentesis of the cornea several times in the same careful way at varying intervals, but eventually the end is accomplished."

After the symptoms have subsided the miotics may be used only two or three times daily.

The further management of the patient is very important and varies with the age and condition of the patient. The hygienic and dietetic treatment is of first importance and in general should be such as to reduce and keep down the blood pressure. Elimination of toxic products should be encouraged by the free use of water between meals, aided by the administration of some of the salts of soda, potash and lithia. While muscular exercise is beneficial to some patients others do better with rest and should

be put to bed. Bull administers sodium nitrite for the high blood pressure, but always with some heart tonic, as the heart's action in many of these cases is feeble. He always gives iodine in some form as he believes this helps by reducing the viscosity of the blood. Potassium iodide is generally preferred, but sodium iodide is given if the potassium salt disagrees with the stomach.

#### A NEW METHOD FOR DETACHING THE CATARACT IN ITS CAPSULE.

G. C. Savage (*Jour. A. M. A.*, October 9, 1909), in order to avoid the traumatism incident to expression of the lens in the Smith operation, has had an instrument made for detaching the cataract in its capsule which he describes thus: The instrument terminates at each end in a double curve, the one in line with the handle and the other at right angles to this line. The point of bending is the point of union of the two curves. The two curves are to have the same radius as has the anterior surface of the lens, and the curves are to be 5, 6 and 7 mm. long, for the reason that eyes vary in size. The name will be the "cataract-in-capsule detacher." It is a right and left-handed instrument.

He describes the technic of his operation as follows:

"A. Patient, instruments, operator and assistant are to be thoroughly prepared.

"B. Complete local anæsthesia is to be used.

"C. Lids are to be separated by a stop-speculum, or the upper lid held up by the assistant, with lid elevator, while the lower lid is pulled down by the other hand of the assistant.

"D. The operator fixes the eyeball by *grasping the tendon of the internus*; then with the other hand he makes the corneal incision of the usual size (5/11 of the circumference) associating with it a good conjunctival flap.

"E. If an iridectomy is to be done, the one hand continues to fix the globe, while with his other hand the operator seizes the iris with iris forceps and gently draws it out through the incision just far enough to enable an assistant to make a vertical snip of the iris with iris scissors, close to the tip of the forceps. The ideal operation, however, is without iridectomy.

"F. The iridectomy having been done—or if the iridectomy is not to be done—the operator, still continuing to fix the eye with his grasp of the tendon, takes in his other hand the cataract-in-capsule detacher and, passing it into the anterior chamber, he directs the free point of the horizontal curve between the iris and the anterior capsule, pressing it gently downward until both

the horizontal and vertical curves are behind the iris, or between the iris and the cataract; and now the detacher is to be so held that the horizontal curve shall rest on the lens below, but parallel with, the horizontal meridian of the lens, while the vertical curve shall rest on the lens to the outer side of, but parallel with, the vertical meridian of the lens, half way between the center and the margin. This is the primary position of the detacher.

"On two movements of the detacher depends the success of the operation:

"1. The vertical curve is made to press against the lens in such a way as to rotate it on its vertical axis, causing the outer margin of the cataract to move backward while the inner margin is made to advance to the same extent. The effect of this movement of the detacher is to tear loose the ligament laterally, the tear including much more than two quadrants, leaving untorn, probably, only a few fibers directly above and below. Now the instrument must be returned to the primary position, thus replacing the cataract in its normal position.

"2. The horizontal curve of the detacher must now be made to rotate the cataract on its transverse axis by advancing the free end of the instrument while making *gentle* pressure against the cataract below its center. The effect is to make the lower margin of the cataract recede while the upper margin advances accordingly. This motion tears loose the few remaining fibers of the ligament, above and below, making easy the next step.

"3. The cataract in its capsule having been torn loose by the two movements of the detacher outlined in 1 and 2 above, this instrument should be withdrawn from the eye, and the cataract in the capsule should be delivered by external pressure, in the old-time way, often without any counter-pressure, the globe still being held by means of the tendon-grasp. Occasionally light external pressure will show that some of the ligaments remain intact, as in one of my eight cases. In such a case the fixation forceps should be laid aside that the left hand may make counter-pressure with the shank of the cystotome until the cataract in the capsule presents in the corneal incision. At this moment the counter-pressure should cease and the presenting cataract should be transfixed from behind with the point of the cystotome, by means of which the cataract may be lifted out, thus minimizing the amount of further external pressure on the lower part of the cornea."

"The new points in the operation are: (1) Method of fixation; (2) the detacher and method of using it; (3) the transfixing of the lens from behind in cases requiring much external pressure."



## GALVANO-CAUTERY PUNCTURE IN ECTROPION AND ENTROPION.

S. Lewis Ziegler (*Jour. A. M. A.*, July 17, 1909) describes a method he has devised for operating on cases of ectropion and entropion which is both simple and efficient. He mentions the following conditions which can be remedied by this method: (a) Spastic entropion or ectropion; (b) senile or relaxed ectropion or entropion; (c) paralytic ectropion; (d) contraction from lacrimal irritation; (e) moderate cicatricial contraction; (f) small cicatricial distortions or dimplings; (g) cases of distichiasis. The only instruments required for the operation are a short galvano-cautery point, which should be rather sharp and a lid clamp. For anæsthesia he generally employs a 4 per cent. solution of cocain on the conjunctival surface. This frequently is sufficient as the clamp causes some anæsthesia. In nervous patients and in cases of entropion he sometimes uses hypodermic injections of cocain beneath the conjunctiva or the skin. In some cases a general anæsthesia is required. His description of the operation follows:

The lid clamp is adjusted with its straight bar 6 mm. from the lid margin. The galvano-cautery point is applied to the surface with considerable pressure, the button on the handle is pressed down to turn on the current, while the point is quickly pushed through the cartilage and as quickly withdrawn. The punctures are made 4 mm. from the lid margin, and separated from each other by an equal interval of 4 mm. These should be made on the side on which we wish the contraction to take place, viz., the conjunctival surface in ectropion, and the skin surface in entropion. If necessary, we can repeat the procedure in a few weeks. From one to three sittings will accomplish as much as a plastic operation would do.

This procedure possesses the double advantage of causing vertical contraction of the relaxed lid, and at the same time producing shrinkage and shortening of the redundant length of the lid, thus restoring the lid to its normal position.

As a rule very little reaction follows the operation. Should any cellulitis occur it is quickly controlled by continuous application of ice pads. Where it is necessary to repeat the operation it is better to make the punctures alternate, placing the second series between the first series. He reports quite a number of cases illustrative of the good results obtained from the operation in the different conditions where it is indicated.



